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To test the validity of a previous study conducted under simulated teaching conditions (which found that openminded teachers use indirect influence more than closedminded teachers), it was hypothesized that the need to maintain classroom control influences the behavior of teachers under actual teaching conditions. Thirty-four high and low scorers on the Rokeach Dogmatism Scale were selected from a group of teachers untrained in interaction analysis and were asked to record on tape six 20-minute segments of regular class sessions, which were then analyzed using the Flanders system of interaction analysis. Findings show that under actual teaching conditions closedminded teachers, as compared to openminded teachers, tend to monopolize classroom talk through a variety of verbal behaviors and therefore seem excessively concerned with classroom control (their students talk less), an interpretation which may account for the lack of difference between open- and closedminded teachers in their use of indirect influence. This interpretation is based on the supposition that the Flanders system confuses verbal behaviors used for control with those used for indirect influence. Because of this apparent limitation of the Flanders system, and the study's other findings concerning the apparent influence of control, the conclusions of the previous study are questionable. (A nine-item bibliography is included.) (SM)

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A SOCIAL-PSYCHOLOGICAL STUDY OF CLASSROOM VERBAL BEHAVIOR

by

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Introduction

Over the past 30 years, a sizeable body of literature on the social-emotional climate and its influence on human behavior, interpersonal relations, and learning and achievement has been developed. Among the early contributors was Willard Waller.[1] In his classic book on the sociology of teaching, Waller provides some valuable insights into the effect of the institutional demands of the school on the behavior of the teacher in the classroom. Viewing the school as "a closed system of social interaction,"[2] Waller describes the teacher's relationship to his students as a "form of institutionalized dominance and subordination."[3] It is a subordination which is maintained, for the most part, by "a personality marked by a certain inflexibility or unbendingness....lack of spontaneity....by inhibition...."[4]

Waller's influence on the early work of H. H. Anderson[5] is not known, but there are some interesting parallels. Consider, for example, Anderson's definition of teacher domination, a definition which contains some of the same language Waller used to describe the experienced teacher:

> Domination is the behavior of a person who is inflexible, rigid, deterministic, who disregards the desires or

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> judgement of others, who himself in the conflict of differences has the answers. Domination is a technique of autocracy or dictatorship; it obstructs the growth and process in others.[6]

The antithesis of dominative behavior, according to Anderson, was integrative behavior. Anderson's integrative-dominative concept was later followed by Lippitt's democratic-autocratic, Cogan's inclusive-preclusive, Withall's learner-centered and teacher-centered, and Flanders' indirect-direct influence.

In a study completed in 1966, Robert Hanny[7] developed a series of specific hypotheses based on the supposition that Rokeach's concept of open and closed mindedness is linked to Flanders' concept of indirect and direct influence in the same generic way as Flanders' concept is linked to Anderson's integrative-dominative, Lippitt's autocratic-democratic, Cogan's preclusive-inclusive, and Withall's learner-centered and teacher-centered concepts. Hanny used simulated teaching conditions to find that open minded teachers untrained in interaction analysis tend to use indirect influence more ($P = .10$) than closed minded teachers. This finding appeared to support the theoretical link between Rokeach's and Flanders' concepts.

Working on the assumption that the simulated teaching conditions under which Hanny's study was conducted may have affected his findings, I examined the relationship between open and closed minded teachers untrained in interaction analysis and classroom verbal behavior under actual teaching conditions. It was Waller's observation that the experienced teacher's rigid personality is developed because of the continual demands on him to maintain control of his students.[8] Based on this observation, supported by my experience as a high school teacher and as

a university supervisor, I hypothesized that one of the major factors influencing the verbal behavior of open and closed minded teachers under actual teaching conditions was the need to maintain classroom control, a condition of teaching which I assumed was not simulated successfully in Hanny's study. Studies by Eidell[9] and Hoy[10] lend support to my hypothesis. Eidell developed a 20-item scale to measure pupil control ideology conceptualized as a continuum, ranging from a custodial or autocratic climate at one end to a humanistic or democratic climate at the other. In a study to determine the relationship between Eidell's custodial-humanistic concept and Rokeach's closed minded-open minded concept, Hoy found that closed minded subjects were significantly more custodial than open minded subjects.

Subjects

The subjects for my study were drawn from a group of 70 teachers from elementary and junior high schools in eastern Oregon, eastern Washington, and Idaho, selected by their principals to participate in a series of Flanders Interaction Analysis training sessions sponsored by the Northwest Regional Educational Laboratory. I did not control the criteria used by the principals to select teachers to participate in the training sessions. That teachers had to be released from their classes to participate in some of the training sessions may have affected the selection criteria used by the principals.

Approximately three months before the training sessions began, those teachers selected to participate were given the 40-item Rokeach Dogmatism Scale (Form E).[11] Seventeen high scorers and 17 low scorers were selected as subjects for this study. All 34 subjects were in the

upper or lower quartiles of Dogmatism Scale scores. None had previous formal training in interaction analysis. Because of the relatively small number of subjects in the two experimental groups and the lack of control over the selection of the population from which the subjects were drawn, I elicited certain demographic information from each of the subjects: age, sex, marital status, years of teaching experience, level taught, and socioeconomic level of schools.

The demographic data collected from the subjects indicated that closed minded subjects (those scoring in the upper quartile), as compared with open minded subjects (those scoring in the lower quartile), were older and consequently had more years of teaching experience. The data on the sex, marital status, teaching level, and socioeconomic levels of the schools of the open and closed minded subjects were approximately the same.

Method

Approximately two months prior to the beginning of the Flanders training sessions, each subject in this study was provided with a complete tape recording system[12] and was taught to use the system. Each subject was then given several boxes of recording tape[13] and was asked to record six 20-minute segments of regular class lessons. The subjects were also given specific instructions on when to conduct the recording sessions. They were asked (1) to vary the recording sessions to include, where applicable, variations in the kind (e.g., social studies, language arts) and ability level (basics, average) of the classes taught, (2) to conduct the recording sessions between morning and afternoon classes. The subjects were also asked to write their names, the names of their schools, the

dates, and the levels taught on the outside of the tape box after completing a recording session. After the subjects had collected six 20-minute tape recorded segments of regular class lessons, they mailed the tapes to the Northwest Regional Educational Laboratory in Portland, Oregon.

When the tapes arrived at the regional laboratory, they were each assigned an identification number corresponding to the subject's name, the name of his school, the date the recording was made, and the level taught. This identification number was written on the tape reel and on the outside of the tape box. When all tapes had been received and identification numbers assigned, the regional laboratory shipped the tapes to the School of Education at the University of Oregon. There, eight graduate students trained in the use of the Flanders system of interaction analysis listened to the tapes and recorded the verbal behavior and tape identification numbers on specially prepared tally sheets. The graduate students were selected on the basis of their ability to achieve intra-group reliability of .85 or better,[14] which they worked to maintain at biweekly meetings. At no time did the intra-group reliability fall below .85.

After the verbal behavior on the tapes had been recorded on tally sheets, the tapes and the tally sheets were sent to the Northwest Regional Educational Laboratory. There the data were plotted and the appropriate column and cell totals and percentages computed by means of a specially prepared computer matrix plotting program using an I.B.M. 1401 computer. A mean percent or ratio score for each of the selected verbal behaviors described in the hypotheses was calculated. An F-test and *t*-test were used to test the hypotheses.[14]

Findings

The significant findings of this study were that open and closed minded teachers appear to differ (a) in their use of a variety of verbal behaviors and (b) in their monopolization of talk in the classroom, and that the students of said teachers appear to differ (a) in their use of extended responsive talk and (b) in their use of student-to-student interaction.

A comparison of findings of this study with those of Hanny's produced the following results:

1. Closed minded teachers, as compared with open minded teachers, appear to use more of a variety of verbal behaviors and to monopolize talk in the classroom more under actual teaching conditions than they do under simulated teaching conditions.

2. Open minded teachers, as compared with closed minded teachers, tend to use indirect influence more under simulated teaching conditions than they do under actual teaching conditions.

3. Under both simulated and actual teaching conditions, students of open minded teachers appear to talk more in the classroom than do the students of closed minded teachers.

A table comparing the findings of this study with those of Hanny's is found in Appendix A.

When taken together, the results of this study as compared with the results of Hanny's study appear to support the notion that the institutional demand for classroom control influences the verbal behavior of open and closed minded teachers and their students under actual teaching conditions. Because closed minded teachers are apparently more concerned about maintaining control of the class than are open minded teachers,

they tend to discourage student talk by monopolizing classroom talk through the use of a wide variety of verbal behaviors. That the students of open minded teachers appear to talk more in class than do the students of closed minded teachers lends support to this interpretation.

The closed minded teacher's excessive concern for control under actual teaching conditions may account for the lack of a significant difference between open and closed minded teachers and their use of indirect influence. This suggested interpretation is based on the supposition that some of the verbal behaviors used by closed minded teachers to control student behavior are recorded as indirect influence by the Flanders system of interaction analysis, which measures indirect influence on the basis of the number of times certain verbal behaviors are used, rather than how they are used.

Therefore, because of the apparent inability of the Flanders system of interaction analysis to measure how indirect influence is used in the classroom and also because of this study's other findings concerning the apparent influence of the control or management function on the verbal behavior of open and closed minded teachers and their students, I question Hanny's assumption that Flanders' concept of indirect-direct influence is theoretically linked to Anderson's, Lippitt's, and Cogan's concepts. Furthermore, because Hanny's findings indicating that open minded teachers untrained in interaction analysis tend to use indirect influence more than closed minded teachers does not appear to be supported by the findings of this study, I would question his conclusion that Rokeach's concept of open and closed mindedness is generically linked to Flanders' concept of indirect and direct influence.

Because the interpretation of the findings concerning indirect influence can only be conjectural, I hope that further studies are conducted to help clarify this problem of measuring indirect influence.

Appendix A.

COMPARISON OF FINDINGS OF THIS STUDY WITH THOSE OF HANNY'S*

Hypotheses		Findings	
		This Study	Hanny's Study
H.1.	Indirect teacher influence	N.S.	.10
H.2.	Variability of verbal behavior	.05	N.S.
H.3.	Teacher monopolization of talk	.05	N.S.
H.4.	Acceptance of student feeling	N.S.	.05
H.8.	Extended student talk in response to teacher questions	.05	.05
H.9.	Extended student talk-initiated	N.S.	.05
H.10.	Student-to-student interaction	.05	N.S.

*Hypotheses not listed were N.S. in both studies.

References

[1] W. Waller. The sociology of teaching. New York: John Wiley & Sons, Inc., 1965.

[2] Ibid., P. 6.

[3] Ibid., P. 195.

[4] Ibid., P. 381.

[5] H. H. Anderson. The measurement of domination and of socially integrative behavior in teachers' contacts with children. Child Development, 1939, 10, 73-89.

[6] Ibid., P. 89.

[7] R. Hanny. The relationship between selected personality characteristics and teacher verbal behavior. (Doctoral dissertation. The Ohio State University) Ann Arbor, Michigan: University Microfilms, 1966. No. 66-15093.

[8] Waller, op. cit., P. 384.

[9] T. L. Eidell, The development and test of the measure of pupil control ideology of public school professional staff members. (Doctoral dissertation, The Pennsylvania State University) Ann Arbor, Michigan: University Microfilms, 1965. No. 65-14748.

[10] W. K. Hoy. Dogmatism and pupil control ideology of public school professional staff members. (Doctoral dissertation, The Pennsylvania State University) Ann Arbor, Michigan: University Microfilms, 1965. No. 66-4815.

[11] M. Rokeach. The open and closed mind. New York: Basic Books, Inc., 1960.

[12] All the subjects in this study were furnished identical recording systems by the Northwest Regional Educational Laboratory. Each system consisted of a Wollensak tape recorder, a mixer, and three mikes.

[13] Each box held one five inch plastic reel containing 600 feet of ½ inch acetate recording tape.

[14] J. E. Hill & A. Kerber. Models, methods and analytical procedures in educational research. Detroit, Mich.: Wayne State University Press, 1967, P. 344.